

CLAIMS:

1. A method of detecting a watermark in a first signal, the method comprising the steps of:
 - receiving (601) the first signal potentially having a watermark embedded in an original signal;
 - 5 receiving (603) a second signal corresponding to the original signal;
 - segmenting (605) the signal into a plurality of segments each corresponding to a watermark symbol;
 - and for each of the segments performing the steps of:
 - determining (607) a first characteristic for a first section of the
 - 10 segment in response to a set of data values of the first signal in the first section and set of data values of the second signal in the first section,
 - determining (609) a second characteristic for a second section of the
 - segment in response to a set of data values of the first signal in the
 - second section and set of data values of the second signal in the second
 - 15 section, and
 - determining (611) a watermark symbol estimate for the segment in
 - response to the first characteristic and the second characteristic; and
 - determining (615) if a watermark is embedded by comparison of the
 - watermark symbol estimates with a reference watermark symbol pattern.
- 20 2. A method as claimed in claim 1 wherein the step of determining (607) the first characteristic comprises determining an envelope characteristic of the first signal in the first section.
- 25 3. A method as claimed in claim 1 wherein the step of determining (607) the first characteristic comprises determining an envelope characteristic of the second signal in the first section.

4. A method as claimed in claim 1 wherein the step of determining (607) the first characteristic comprises determining the first characteristic as a first relationship between an envelope characteristic of the first signal in the first section and an envelope characteristic of the second signal in the first section.

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5. A method as claimed in claim 4 wherein the first relationship is a ratio.

6. A method as claimed in claim 5 wherein the step of determining (609) the second characteristic comprises determining the second characteristic as a second ratio between an envelope characteristic of the first signal in the second section and an envelope characteristic of the second signal in the second section and the step (615) of determining a watermark symbol estimate comprises determining the watermark symbol estimate as a mathematical function of the first ratio and the second ratio.

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7. A method as claimed in claim 6 wherein the mathematical relationship comprises a subtraction.

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8. A method as claimed in claim 1 wherein a symbol shape of the watermark symbols is a substantially bi-phase window symbol shape.

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9. A method as claimed in claim 1 further comprising the step of determining a property of the first characteristic in response to a symbol shape of the watermark symbols.

10. A method as claimed in claim 1 further comprising the step of extracting a first portion of the first signal and performing the segmentation and watermark symbol estimation by processing of the first portion only.

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11. A method as claimed in claim 1 wherein the step of extracting the first portion comprises filtering the first signal.

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12. A method as claimed in claim 1 wherein the watermark is a multiplicative watermark.

13. An apparatus for detecting a watermark in a first signal, the method comprising:

- means (501) for receiving the first signal potentially having a watermark embedded in an original signal;
- 5 means (503) for receiving a second signal corresponding to the original signal;
- means (505, 507) for segmenting the signal into a plurality of segments each corresponding to a watermark symbol;
- and means (509, 511, 513) for, for each of the segments,
- 10 determining a first characteristic for a first section of the segment in response to a set of data values of the first signal in the first section and set of data values of the second signal in the first section,
- determining a second characteristic for a second section of the segment in response to a set of data values of the first signal in the second section and set of data values of the second signal in the second section, and
- 15 determining a watermark symbol estimate for the segment in response to the first characteristic and the second characteristic; and
- means (515) for determining if a watermark is embedded by comparison of the watermark symbol estimates with a reference watermark symbol pattern.